

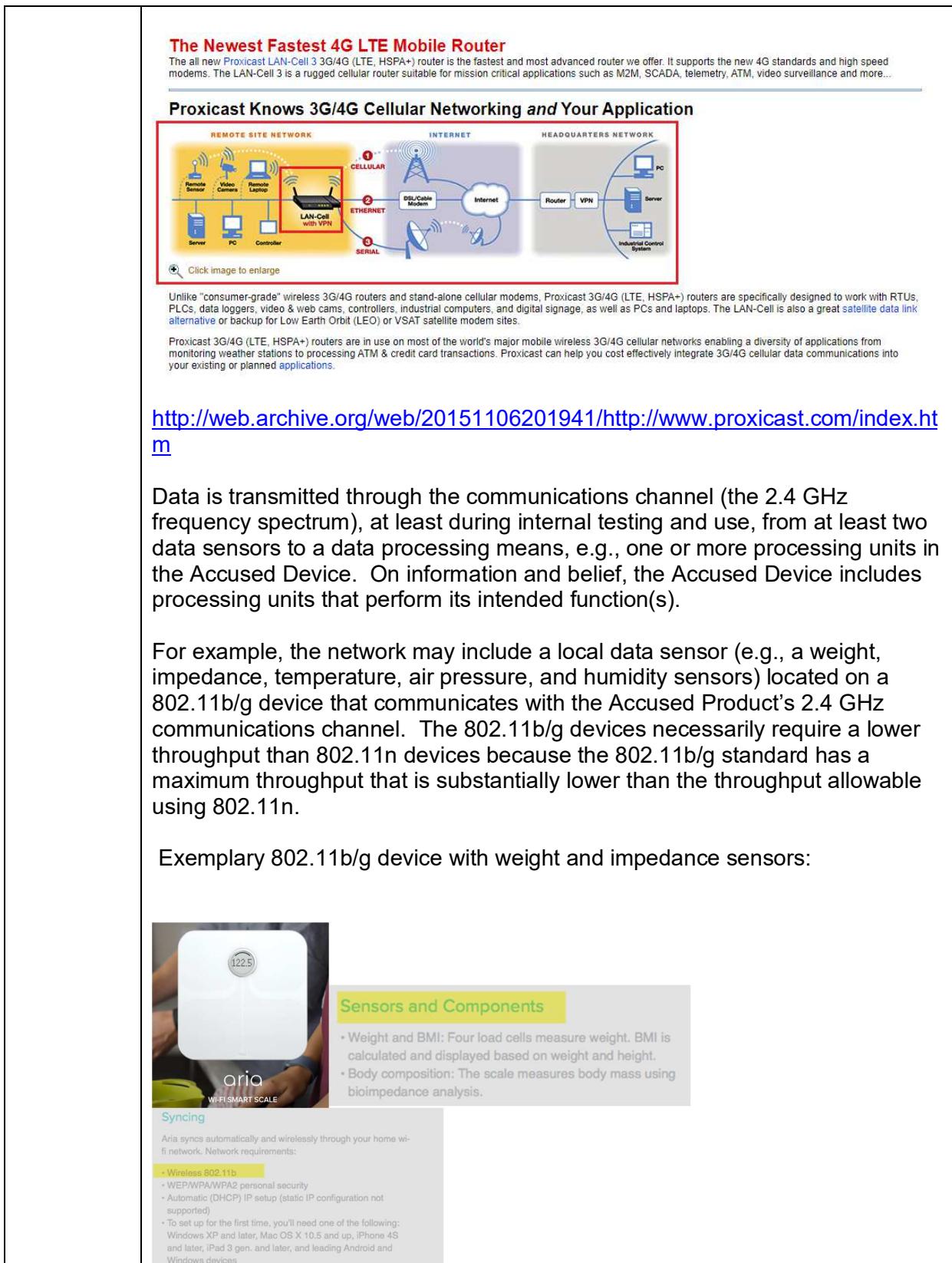
Exhibit 2

U.S. Pat. No. 6,917,304 ("Wireless Multiplex Data Transmission System")
Claim Chart Template

U.S. Pat. No. 6,917,304 v. [Proxicast LAN-Cell 3 VPN Router]

Claim Language	Proxicast LAN-Cell 3 VPN Router ("Accused Product/device")
<p>1. A method of wireless transmission of data in digital and/or analogue format through a communications channel from at least two data sensors to a data processing means said method comprising the step of division of said channel into sub-channels and transmitting said data from said data sensors respectively through said sub-channels accordingly ; characterized by</p>	<p>The Accused Product practices a method for wireless transmission of data in digital format through a communications channel, for example, the channel between 2.4 GHz and approximately 2.5 GHz frequency band, among other bands.</p> <div data-bbox="381 633 1403 1119"> <p>Search products <input type="text"/> <input type="button" value="Search"/> <input type="button" value="Cart"/></p> <p>3G/4G ROUTERS 3G/4G MODEMS MODEM PIGTAILS ANTENNAS CABLES POWER SOFTWARE</p> <p>Home / 3G/4G Routers / Proxicast LAN-Cell 3: 3G/4G (LTE, HSPA+) VPN Router</p> <p>New</p> <p>Save 14%</p> <p>Proxicast LAN-Cell 3: 3G/4G (LTE, HSPA+) VPN Router</p> <p>List price: \$699.00</p> <p>\$599.00</p> <p>You save: \$100.00 (14%)</p> <p>PART #: LC3-52U</p> <p>IN STOCK: Contact us regarding availability</p> <p>Includes Free Modem-SAFE Mounting Base - a \$69 value</p> <p>http://shop.proxicast.com/shopping/lan-cell-3-3g-4g-lte-hspa-vpn-router.html</p> <p>LAN-Cell 3: Everything you need – in <u>one</u> unit:</p> <ul style="list-style-type: none"> Open Upgradable Architecture - High Speed 3G/4G USB Modem Slot and External Antenna Ports Supports LTE, HSPA+, EV-DO, 1x, HSPA, HSUPA, HSDPA, UMTS, EDGE, GPRS USB Modems Enterprise-Class 3G/4G Router with Full VPN Client + Server. 25 Simultaneous Tunnels. Compatible with Cisco, Juniper, SonicWall, and other VPN Systems / Software High Speed WiFi (802.11 b/g/n) 2x2 MIMO System - Max Data Rate 300Mbps. WiFi Available on the LAN and as a WAN Client Simultaneously (4) Port 10/100/1000 Ethernet LAN Switch + (1) Ethernet WAN Port Automatic Fail-Over Between 3G/4G Cellular & Ethernet WAN Advanced Firewall, Quality-of-Service (QoS) & Security Functions Patented USB Modem-LOCK Secures USB Modem In-Place Easy Management with Web Interface & SNMP Management Rugged Industrial Design with Metal Chassis <p>http://web.archive.org/web/20151106201941/http://www.proxicast.com/index.htm</p> </div>

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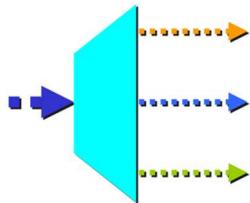
	<p>https://www.fitbit.com/aria. Additional exemplary 802.11b/g sensors include wireless temperature, air pressure, and humidity sensors. http://www.omega.com/pptst/wSeries.html</p> <p>The network, at least during internal testing and use, may in addition include a second data sensor (e.g., camera sensor as shown in the exemplary 802.11n device below) located on a 802.11n device that also communicates with the Accused Device's 2.4 GHz communications channel. These devices using the 802.11n standard have a higher throughput than is allowed under the 802.11b/g standard.</p> <p>Exemplary 802.11n device with a digital camera and accompanying image sensor (e.g., CMOS, CCD, and other variations):</p> <p></p> <p>The cream of the current Fire OS tablet crop, the 8.9-inch device first launched in Sept 2013, and was refreshed this September with a starting sticker price of \$429 USD. It packs a 2,560 x 1,600 pixel display, a Qualcomm Inc. (QCOM) Snapdragon 805 chip (quad-core, 2.5 GHz), 2 GB of LPDDR3, and 802.11n Wi-Fi.</p> <p>http://bit.ly/1Ylj6Bd</p> <p>The Accused Product comprises a multiplexer adapted to effect division of the communications channel into sub-channels, e.g., in the Accused Product the 2.4 GHz frequency spectrum is divided into communications channels for 802.11b/g, and communications channels for 802.11n. For example, there are 14 sub-channels within the 2.4 GHz band. (see below).</p> <p>Channels 1, 6, and 11</p> <p>First of all, let's talk about 2.4GHz, because as of the start of 2015, almost all WiFi installations still use the 2.4GHz band. 802.11ac, which debuted in 2013, is driving adoption of 5GHz — but thanks to backwards compatibility and dual-radio routers and devices, 2.4GHz will continue to reign for a while.</p> <p></p> <p>http://www.extremetech.com/computing/179344-how-to-boost-your-wifi-speed-by-choosing-the-right-channel</p>
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<p>a) said step of division of said communications channel being effected asymmetrically whereby the data carrying capacities of said sub-channels are unequal; and</p>	<p>The Accused Device is configured to be adapted to divide the 2.4 GHz frequency spectrum asymmetrically. The table below summarizes the how the Accused Device uses modulation and coding rate to determine how data is sent using the 2.4 GHz communications channel.</p> <p><u>Modulation scheme and coding rate for 802.11g:</u></p> <p>Symbol duration = 4 μs Data-carrying sub-carriers = 48 Coded bits / sub-carrier = 6 (64 QAM) Coded bits / symbol = 6 x 48 = 288 Data bits / symbol: $3/4 \times 288 = 216$ bits/symbol \Rightarrow bit rate = 216 bits / 4 μs = 54 Mb/s</p> <p>http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf</p> <p><u>Modulation scheme and coding rate for 802.11n:</u></p> <table border="1" data-bbox="388 994 1024 1495"> <thead> <tr> <th rowspan="2">MCS Index</th><th rowspan="2">Type</th><th rowspan="2">Coding Rate</th><th rowspan="2">Spatial Streams</th><th colspan="2">Data Rate (Mbps) with 20 MHz CH</th><th colspan="2">Data Rate (Mbps) with 40 MHz CH</th></tr> <tr> <th>800 ns</th><th>400 ns (SGI)</th><th>800 ns</th><th>400 ns (SGI)</th></tr> </thead> <tbody> <tr><td>0</td><td>BPSK</td><td>1 / 2</td><td>1</td><td>6.50</td><td>7.20</td><td>13.50</td><td>15.00</td></tr> <tr><td>1</td><td>QPSK</td><td>1 / 2</td><td>1</td><td>13.00</td><td>14.40</td><td>27.00</td><td>30.00</td></tr> <tr><td>2</td><td>QPSK</td><td>3 / 4</td><td>1</td><td>19.50</td><td>21.70</td><td>40.50</td><td>45.00</td></tr> <tr><td>3</td><td>16-QAM</td><td>1 / 2</td><td>1</td><td>26.00</td><td>28.90</td><td>54.00</td><td>60.00</td></tr> <tr><td>4</td><td>16-QAM</td><td>3 / 4</td><td>1</td><td>39.00</td><td>43.30</td><td>81.00</td><td>90.00</td></tr> <tr><td>5</td><td>64-QAM</td><td>2 / 3</td><td>1</td><td>52.00</td><td>57.80</td><td>108.00</td><td>120.00</td></tr> <tr><td>6</td><td>64-QAM</td><td>3 / 4</td><td>1</td><td>58.50</td><td>65.00</td><td>121.50</td><td>135.00</td></tr> <tr><td>7</td><td>64-QAM</td><td>5 / 6</td><td>1</td><td>65.00</td><td>72.20</td><td>135.00</td><td>150.00</td></tr> <tr><td>8</td><td>BPSK</td><td>1 / 2</td><td>2</td><td>13.00</td><td>14.40</td><td>27.00</td><td>30.00</td></tr> <tr><td>9</td><td>QPSK</td><td>1 / 2</td><td>2</td><td>26.00</td><td>28.90</td><td>54.00</td><td>60.00</td></tr> <tr><td>10</td><td>QPSK</td><td>3 / 4</td><td>2</td><td>39.00</td><td>43.30</td><td>81.00</td><td>90.00</td></tr> <tr><td>11</td><td>16-QAM</td><td>1 / 2</td><td>2</td><td>52.00</td><td>57.80</td><td>108.00</td><td>120.00</td></tr> <tr><td>12</td><td>16-QAM</td><td>3 / 4</td><td>2</td><td>78.00</td><td>86.70</td><td>162.00</td><td>180.00</td></tr> <tr><td>13</td><td>64-QAM</td><td>2 / 3</td><td>2</td><td>104.00</td><td>115.60</td><td>216.00</td><td>240.00</td></tr> <tr><td>14</td><td>64-QAM</td><td>3 / 4</td><td>2</td><td>117.00</td><td>130.00</td><td>243.00</td><td>270.00</td></tr> <tr><td>15</td><td>64-QAM</td><td>5 / 6</td><td>2</td><td>130.00</td><td>144.40</td><td>270.00</td><td>300.00</td></tr> <tr><td>16</td><td>BPSK</td><td>1 / 2</td><td>3</td><td>19.50</td><td>21.70</td><td>40.50</td><td>45.00</td></tr> <tr><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td></tr> <tr><td>31</td><td>64-QAM</td><td>5 / 6</td><td>4</td><td>260.00</td><td>288.90</td><td>540.00</td><td>600.00</td></tr> </tbody> </table> <p>http://airmagnet.flukenetworks.com/assets/whitepaper/WP-802.11nPrimer.pdf</p> <p>Both 802.11g and 802.11n traffic is handled through an OFDM (orthogonal frequency division multiplexing) multiplexing scheme whereby data in a communication channel is split into N parallel data streams or multiple "subcarriers" (i.e., sub-channels). The OFDM scheme for the 802.11n standard allows for the 802.11n to handle higher data rates than 802.11g and earlier standards.</p>	MCS Index	Type	Coding Rate	Spatial Streams	Data Rate (Mbps) with 20 MHz CH		Data Rate (Mbps) with 40 MHz CH		800 ns	400 ns (SGI)	800 ns	400 ns (SGI)	0	BPSK	1 / 2	1	6.50	7.20	13.50	15.00	1	QPSK	1 / 2	1	13.00	14.40	27.00	30.00	2	QPSK	3 / 4	1	19.50	21.70	40.50	45.00	3	16-QAM	1 / 2	1	26.00	28.90	54.00	60.00	4	16-QAM	3 / 4	1	39.00	43.30	81.00	90.00	5	64-QAM	2 / 3	1	52.00	57.80	108.00	120.00	6	64-QAM	3 / 4	1	58.50	65.00	121.50	135.00	7	64-QAM	5 / 6	1	65.00	72.20	135.00	150.00	8	BPSK	1 / 2	2	13.00	14.40	27.00	30.00	9	QPSK	1 / 2	2	26.00	28.90	54.00	60.00	10	QPSK	3 / 4	2	39.00	43.30	81.00	90.00	11	16-QAM	1 / 2	2	52.00	57.80	108.00	120.00	12	16-QAM	3 / 4	2	78.00	86.70	162.00	180.00	13	64-QAM	2 / 3	2	104.00	115.60	216.00	240.00	14	64-QAM	3 / 4	2	117.00	130.00	243.00	270.00	15	64-QAM	5 / 6	2	130.00	144.40	270.00	300.00	16	BPSK	1 / 2	3	19.50	21.70	40.50	45.00	31	64-QAM	5 / 6	4	260.00	288.90	540.00	600.00
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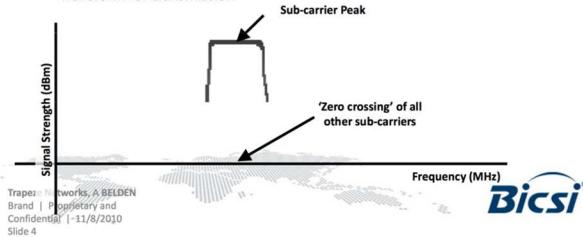
An OFDM system takes a data stream and **splits it into N parallel data streams**, each at a rate 1/N of the origin rate.



<http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf>

OFDM Technology

- OFDM = Orthogonal Frequency Division Multiplexing
- Orthogonal
 - Data is transmitted in parallel on multiple narrowband sub-carriers
 - The spectral peak of adjacent sub-carriers coincides with the zero crossing of all the other carriers (i.e. they are orthogonal)
 - For 802.11a/g/n sub-carriers are spaced at 312.5KHz intervals
 - An Inverse Fast Fourier Transform (IFFT) is used to create a composite waveform for transmission



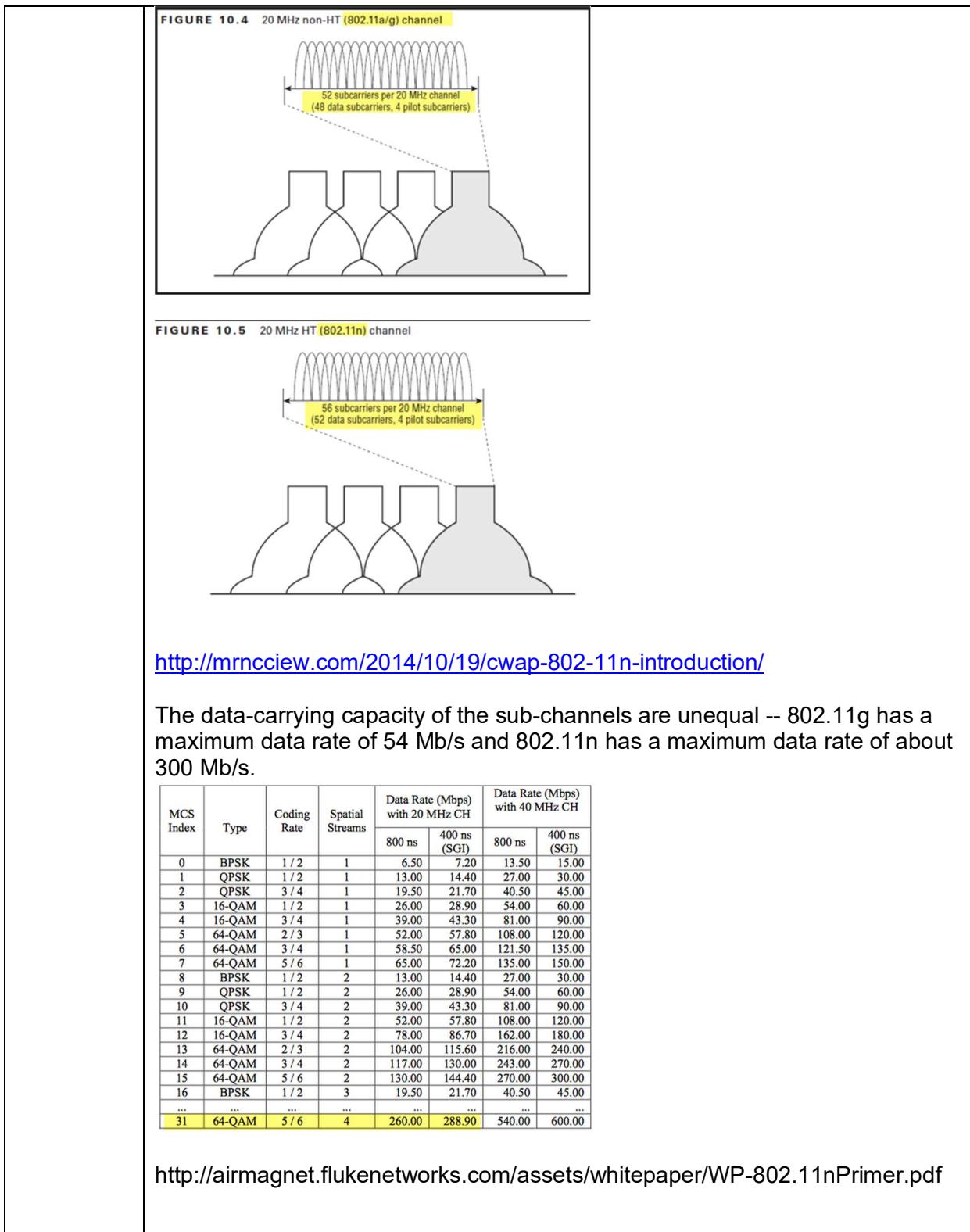
<https://www.bicsi.org/uploadedfiles/PDFs/Conferences/singapore2010/day2/2.8%20802.11n%20Deployment%20-%20Alfred%20Chan,%20Trapeze.pdf>

The communications channel is divided asymmetrically whereby data-carrying capacity of the sub-channels are unequal. 802.11g (20 MHz channel) data is divided into 52 sub-carriers (sub-channels) and 802.11n (20 MHz channel) data is divided into 56 sub-carriers (sub-channels). Using the 20MHz channel for 802.11n allows connection with legacy devices using 802.11a/g 20 MHz channels.

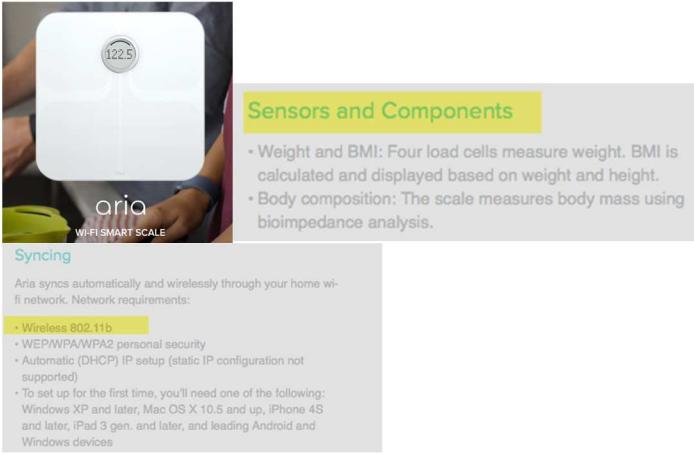
- Frequency Division
 - **802.11a/g 20MHz channels:** 52 sub-carriers (48 data, 4 pilot)
 - **802.11n 20MHz channels:** 56 sub-carriers (52 data, 4 pilot)
 - **802.11n 40MHz channel:** 114 sub-carriers (108 data, 6 pilot)
- Multiplexing
 - Blocks of data are multiplexed across the sub-carriers
 - Data is modulated on the channel using BPSK, QPSK, 16 or 64 QAM with FEC

<https://www.bicsi.org/uploadedfiles/PDFs/Conferences/singapore2010/day2/2.8%20802.11n%20Deployment%20-%20Alfred%20Chan,%20Trapeze.pdf>

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	<p>Symbol duration = 4 μs</p> <p>Data-carrying sub-carriers = 48</p> <p>Coded bits / sub-carrier = 6 (64 QAM)</p> <p>Coded bits / symbol = 6 x 48 = 288</p> <p>Data bits / symbol: $3/4 \times 288 = 216$ bits/symbol</p> <p>=> bit rate = 216 bits / 4 μs = 54 Mb/s</p> <p>http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf</p>
b) the data rate required for data transmission from said local sensors differing substantially between said at least two sensors; and	<p>The accused product is 802.11b/g/n compliant and therefore is configured to adapt to both types of sensors, one which has 802.11b/g capability and the other which has 802.11n capability. The local data sensors (e.g., sensor(s) of the exemplary 802.11b/g device shown below, sensor(s) of the exemplary 802.11n device) to groups of sub-channels in accordance with different data rate requirements from the local sensors.</p> <p>Exemplary 802.11b/g device with weight and impedance sensors:</p>  <p>https://www.fitbit.com/aria. Additional exemplary 802.11b/g sensors include wireless temperature, air pressure, and humidity sensors.</p> <p>http://www.omega.com/pptst/wSeries.html</p> <p>The network, at least during internal testing and use, may in addition include a second data sensor (e.g., camera sensor as shown in the exemplary 802.11n device below) located on a 802.11n device that also communicates with the Accused Device's 2.4 GHz communications channel. These devices using the 802.11n standard have a higher throughput than is allowed under the 802.11b/g standard.</p> <p>Exemplary 802.11n device with a digital camera and accompanying image sensor (e.g., CMOS, CCD, and other variations):</p>

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<http://bit.ly/1Ylj6Bd>

The cream of the current [Fire OS tablet crop](#), the 8.9-inch device [first launched in Sept 2013](#), and was refreshed this September, with a starting sticker price of \$429 USD. It packs a 2,560 x 1,600 pixel display, a Qualcomm Inc. ([QCOM](#)) [Snapdragon 805](#) chip (quad-core, 2.5 GHz), 2 GB of LPDDR3, and [802.11n Wi-Fi](#).

For example, when an 802.11b/g device communicates with the Accused Product, because the device can only send data at the data rate of the slower 802.11b/g standard, the Accused Product assigns the 802.11b/g device to an 802.11b/g channel. 802.11b/g data is allocated to the 48 data sub-channels (see below) in accordance with the data rate requirements of the 802.11b/g device's sensor, with 54 Mbps being the maximum data rate allocable to the 802.11 b/g device.

Symbol duration = 4 μ s

Data-carrying sub-carriers = 48

Coded bits / sub-carrier = 6 (64 QAM)

Coded bits / symbol = $6 \times 48 = 288$

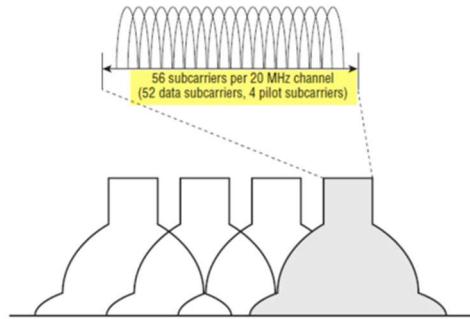
Data bits / symbol: $3/4 \times 288 = 216$ bits/symbol

=> **bit rate = 216 bits / 4 μ s = 54 Mb/s**

<http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf>

For example, when an 802.11n device communicates with the Accused Product, because the device can send data at the substantially higher data rate of the 802.11n standard, the Accused Product assigns the 802.11n device to an 802.11n channel. 802.11n data (from e.g., the 802.11n device's video sensor) is allocated to 52 sub-channels (see below) in accordance with the data rate requirements of the 802.11n device's sensor, with 300 Mbps being the maximum data rate allocable to the 802.11n device.

FIGURE 10.5 20 MHz HT (802.11n) channel

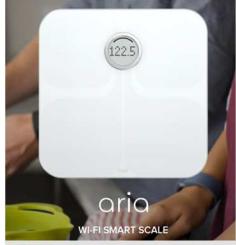


<http://mrncciew.com/2014/10/19/cwap-802-11n-introduction/>

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	<p>The data-carrying capacity of the sub-channels are unequal -- 802.11g has a maximum data rate of 54 Mb/s and 802.11n has a maximum data rate of 300 Mb/s.</p> <table border="1"> <thead> <tr> <th rowspan="2">MCS Index</th><th rowspan="2">Type</th><th rowspan="2">Coding Rate</th><th rowspan="2">Spatial Streams</th><th colspan="2">Data Rate (Mbps) with 20 MHz CH</th><th colspan="2">Data Rate (Mbps) with 40 MHz CH</th></tr> <tr> <th>800 ns</th><th>400 ns (SGI)</th><th>800 ns</th><th>400 ns (SGI)</th></tr> </thead> <tbody> <tr><td>0</td><td>BPSK</td><td>1/2</td><td>1</td><td>6.50</td><td>7.20</td><td>13.50</td><td>15.00</td></tr> <tr><td>1</td><td>QPSK</td><td>1/2</td><td>1</td><td>13.00</td><td>14.40</td><td>27.00</td><td>30.00</td></tr> <tr><td>2</td><td>QPSK</td><td>3/4</td><td>1</td><td>19.50</td><td>21.70</td><td>40.50</td><td>45.00</td></tr> <tr><td>3</td><td>16-QAM</td><td>1/2</td><td>1</td><td>26.00</td><td>28.90</td><td>54.00</td><td>60.00</td></tr> <tr><td>4</td><td>16-QAM</td><td>3/4</td><td>1</td><td>39.00</td><td>43.30</td><td>81.00</td><td>90.00</td></tr> <tr><td>5</td><td>64-QAM</td><td>2/3</td><td>1</td><td>52.00</td><td>57.80</td><td>108.00</td><td>120.00</td></tr> <tr><td>6</td><td>64-QAM</td><td>3/4</td><td>1</td><td>58.50</td><td>65.00</td><td>121.50</td><td>135.00</td></tr> <tr><td>7</td><td>64-QAM</td><td>5/6</td><td>1</td><td>65.00</td><td>72.20</td><td>135.00</td><td>150.00</td></tr> <tr><td>8</td><td>BPSK</td><td>1/2</td><td>2</td><td>13.00</td><td>14.40</td><td>27.00</td><td>30.00</td></tr> <tr><td>9</td><td>QPSK</td><td>1/2</td><td>2</td><td>26.00</td><td>28.90</td><td>54.00</td><td>60.00</td></tr> <tr><td>10</td><td>QPSK</td><td>3/4</td><td>2</td><td>39.00</td><td>43.30</td><td>81.00</td><td>90.00</td></tr> <tr><td>11</td><td>16-QAM</td><td>1/2</td><td>2</td><td>52.00</td><td>57.80</td><td>108.00</td><td>120.00</td></tr> <tr><td>12</td><td>16-QAM</td><td>3/4</td><td>2</td><td>78.00</td><td>86.70</td><td>162.00</td><td>180.00</td></tr> <tr><td>13</td><td>64-QAM</td><td>2/3</td><td>2</td><td>104.00</td><td>115.60</td><td>216.00</td><td>240.00</td></tr> <tr><td>14</td><td>64-QAM</td><td>3/4</td><td>2</td><td>117.00</td><td>130.00</td><td>243.00</td><td>270.00</td></tr> <tr><td>15</td><td>64-QAM</td><td>5/6</td><td>2</td><td>130.00</td><td>144.40</td><td>270.00</td><td>300.00</td></tr> <tr><td>16</td><td>BPSK</td><td>1/2</td><td>3</td><td>19.50</td><td>21.70</td><td>40.50</td><td>45.00</td></tr> <tr><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td><td>...</td></tr> <tr><td>31</td><td>64-QAM</td><td>5/6</td><td>4</td><td>260.00</td><td>288.90</td><td>540.00</td><td>600.00</td></tr> </tbody> </table> <p>http://airmagnet.flukenetworks.com/assets/whitepaper/WP-802.11nPrimer.pdf</p> <p>Symbol duration = 4 μs Data-carrying sub-carriers = 48 Coded bits / sub-carrier = 6 (64 QAM) Coded bits / symbol = 6 x 48 = 288 Data bits / symbol: $3/4 \times 288 = 216$ bits/symbol => bit rate = 216 bits / 4 μs = 54 Mb/s</p> <p>http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf</p> <p>c) allocating data from said local data sensors to respective ones or groups of said sub-channels in accordance with the data carrying capacities of said</p> <p>The Accused Product includes is configured to allocate data from said local data sensors (e.g., sensor(s) of the exemplary 802.11b/g device shown below, sensor(s) of the exemplary 802.11n device) to groups of sub-channels in accordance with different data rate requirements from the local sensors.</p> <p>Exemplary 802.11b/g device with weight and impedance sensors:</p>	MCS Index	Type	Coding Rate	Spatial Streams	Data Rate (Mbps) with 20 MHz CH		Data Rate (Mbps) with 40 MHz CH		800 ns	400 ns (SGI)	800 ns	400 ns (SGI)	0	BPSK	1/2	1	6.50	7.20	13.50	15.00	1	QPSK	1/2	1	13.00	14.40	27.00	30.00	2	QPSK	3/4	1	19.50	21.70	40.50	45.00	3	16-QAM	1/2	1	26.00	28.90	54.00	60.00	4	16-QAM	3/4	1	39.00	43.30	81.00	90.00	5	64-QAM	2/3	1	52.00	57.80	108.00	120.00	6	64-QAM	3/4	1	58.50	65.00	121.50	135.00	7	64-QAM	5/6	1	65.00	72.20	135.00	150.00	8	BPSK	1/2	2	13.00	14.40	27.00	30.00	9	QPSK	1/2	2	26.00	28.90	54.00	60.00	10	QPSK	3/4	2	39.00	43.30	81.00	90.00	11	16-QAM	1/2	2	52.00	57.80	108.00	120.00	12	16-QAM	3/4	2	78.00	86.70	162.00	180.00	13	64-QAM	2/3	2	104.00	115.60	216.00	240.00	14	64-QAM	3/4	2	117.00	130.00	243.00	270.00	15	64-QAM	5/6	2	130.00	144.40	270.00	300.00	16	BPSK	1/2	3	19.50	21.70	40.50	45.00	31	64-QAM	5/6	4	260.00	288.90	540.00	600.00
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sub-channels.	 <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p>Sensors and Components</p> <ul style="list-style-type: none"> • Weight and BMI: Four load cells measure weight. BMI is calculated and displayed based on weight and height. • Body composition: The scale measures body mass using bioimpedance analysis. </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p>Syncing</p> <p>Aria syncs automatically and wirelessly through your home wi-fi network. Network requirements:</p> <ul style="list-style-type: none"> • Wireless 802.11b • WEP/WPA/WPA2 personal security • Automatic (DHCP) IP setup (static IP configuration not supported) • To set up for the first time, you'll need one of the following: Windows XP and later, Mac OS X 10.5 and up, iPhone 4S and later, iPad 3 gen. and later, and leading Android and Windows devices </div>
<p>https://www.fitbit.com/aria. Additional exemplary 802.11b/g sensors include wireless temperature, air pressure, and humidity sensors.</p> <p>http://www.omega.com/pptst/wSeries.html</p> <p>The network, at least during internal testing and use, may in addition include a second data sensor (e.g., camera sensor as shown in the exemplary 802.11n device below) located on a 802.11n device that also communicates with the Accused Device's 2.4 GHz communications channel. These devices using the 802.11n standard have a higher throughput than is allowed under the 802.11b/g standard.</p> <p>Exemplary 802.11n device with a digital camera and accompanying image sensor (e.g., CMOS, CCD, and other variations):</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>The cream of the current Fire OS tablet crop, the 8.9-inch device first launched in Sept 2013, and was refreshed this September, with a starting sticker price of \$429 USD. It packs a 2,560 x 1,600 pixel display, a Qualcomm Inc. (QCOM) Snapdragon 805 chip (quad-core, 2.5 GHz), 2 GB of LPDDR3, and 802.11n Wi-Fi.</p> <p>http://bit.ly/1Ylj6Bd</p> </div> </div> <p>For example, when an 802.11b/g device communicates with the Accused Product, because the device can only send data at the data rate of the slower 802.11b/g standard, the Accused Product assigns the 802.11b/g device to an 802.11b/g channel. 802.11b/g data is allocated to the 48 data sub-channels (see below) in accordance with the data rate requirements of the 802.11b/g device's sensor, with 54 Mbps being the maximum data rate allocable to the 802.11b/g device.</p>	

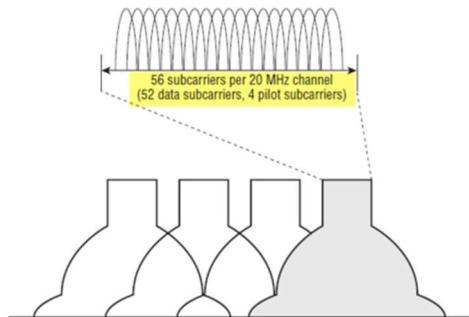
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Symbol duration = 4 μ s
Data-carrying sub-carriers = 48
Coded bits / sub-carrier = 6 (64 QAM)
Coded bits / symbol = 6 x 48 = 288
Data bits / symbol: $3/4 \times 288 = 216$ bits/symbol
=> bit rate = 216 bits / 4 μ s = 54 Mb/s

<http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf>

For example, when an 802.11n device communicates with the Accused Product, because the device can send data at the substantially higher data rate of the 802.11n standard, the Accused Product assigns the 802.11n device to an 802.11n channel. 802.11n data (from e.g., the 802.11n device's video sensor) is allocated to 52 sub-channels (see below) in accordance with the data rate requirements of the 802.11n device's sensor, with 300 Mbps being the maximum data rate allocable to the 802.11n device.

FIGURE 10.5 20 MHz HT (802.11n) channel



<http://mrncciew.com/2014/10/19/cwap-802-11n-introduction/>

The data-carrying capacity of the sub-channels are unequal -- 802.11g has a maximum data rate of 54 Mb/s and 802.11n has a maximum data rate of 300 Mb/s.

MCS Index	Type	Coding Rate	Spatial Streams	Data Rate (Mbps) with 20 MHz CH		Data Rate (Mbps) with 40 MHz CH	
				800 ns	400 ns (SGI)	800 ns	400 ns (SGI)
0	BPSK	1/2	1	6.50	7.20	13.50	15.00
1	QPSK	1/2	1	13.00	14.40	27.00	30.00
2	QPSK	3/4	1	19.50	21.70	40.50	45.00
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9	QPSK	1/2	2	26.00	28.90	54.00	60.00
10	QPSK	3/4	2	39.00	43.30	81.00	90.00
11	16-QAM	1/2	2	52.00	57.80	108.00	120.00
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31	64-QAM	5/6	4	260.00	288.90	540.00	600.00

<http://airmagnet.flukenetworks.com/assets/whitepaper/WP-802.11nPrimer.pdf>

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	<p>Symbol duration = 4 μs</p> <p>Data-carrying sub-carriers = 48</p> <p>Coded bits / sub-carrier = 6 (64 QAM)</p> <p>Coded bits / symbol = $6 \times 48 = 288$</p> <p>Data bits / symbol: $3/4 \times 288 = 216$ bits/symbol</p> <p>=> bit rate = 216 bits / 4 μs = 54 Mb/s</p> <p>http://www.polytech2go.fr/topnetworks/lectures/book16pe1.pdf</p>
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